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## A GLANCE AT THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.

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BY JOHN FORD, PHILADELPHIA.<sup>1</sup>

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The present building of the Academy of Natural Sciences of Philadelphia fronting on Logan Square, is a very large one, but the new structure, of which a perspective view is given on the opposite page, will be quite double the size; the front of the latter on 19th St., being 155 feet; and that on Cherry St. 130 feet, thus giving an additional surface area of 20,150 square feet. Four tiers of galleries 32 ft. wide will surround an open central hall, the whole illuminated by an arched glass roof springing at a height of 80 ft. above the floor. Added to these will be many rooms for Laboratory, Office and other purposes. The society for whose accomodations this noble edifice is being erected, is the oldest of the kind in America, it having been founded in 1812 by a few earnest seekers after knowledge. Since then many hundreds of names, among them a large number well known to-day, have been added to its membership. It is not strange, therefore, that for many years the society's decisions have had great weight in the scientific world.

In addition to its contributions to the progress of science through the publication of discoveries and investigations, and courses of popular lectures, it has established a museum of natural objects equal in many respects to the finest known. In this vast aggregation there

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<sup>1</sup> EDITOR OF NAUTILUS, DEAR SIR: Accompanying this communication please find a picture of the building of the Academy of Natural Sciences of Philadelphia, as it will appear when the addition now under construction is finished.

are thirty thousand birds including the Gould collection of Australian species, the Bonaparte collection of European species and Verreaux series from Asia and Africa.

The collection of fossils, which is being systematically arranged by Prof. Angelo Heilprin, Curator-in-charge, contains some 20,000 trays of specimens besides a larger number of original types of American Tertiary fossils than all other collections in existence.

The Minerals, including the superb collection of the late Wm. S. Vaux, equal in numbers and beauty the best in the country.

Of no less interest and value is the collection of Insects which in extent and completeness is almost unrivaled. Nor less instructive and attractive is the Herbarium with its vast number of specimens, including 35,000 species of flowering plants.

Many other equally important collections are contained in the Museum.

Among these may be mentioned the Fishes, Reptiles, Corals, Sponges and Crustaceans, all of which are largely represented.

There are also some 1,700 specimens of human Crania and a host of Archaeological objects.

But of more especial interest, perhaps, to the readers of the Nautilus is the Conchological collection.

This is equal in all respects to the best in the world, and superior to all in the systematic arrangement of the specimens. There are fully thirty thousand species and named varieties in the collection, these embracing nearly a half million of specimens, the majority of which were presented from time to time by prominent Conchologists whose knowledge and means enabled them to select and secure the best examples available. To this fact may be ascribed much of the beauty and value of the collection.

As already stated the arrangement of the collection is superior to any in the world, and this is directly due to the careful study and matchless executive ability of the late Mr. Tryon who planned it in accordance with the design previously prepared by him for his masterly work the *MANUAL OF CONCHOLOGY*.

He did not live to see the entire fulfilment of his wishes but they are being faithfully carried out by his friend and sometime assistant, Mr. H. A. Pilsbry, the present conservator of the department and Editor of the Manual.

The primal group in the arrangement is a synoptical one embracing all of the principal genera known.

With each of these are a sufficient number of species to make the generic distinctions at once apparent, thus enabling the student to locate in the general collection any genus he might wish to examine.

Following this group are the genera with their full complement of species, the bulk of the latter represented by specimens, the remainder by figures or models.

First in line are the Cephalopods, which as your readers know, comprise the highest class of the Mollusca.

Only a few of these produce shells that are wholly external. A fine display, however, of those belonging to the Nautilus and Argonauta are to be seen, together with many rare models of shell-less species.

Near these are several trays of frail glass-like shells belonging to the class Pteropoda. Of this class quite a number of genera are represented making a very dainty and delicate group.

Next in order comes the Marine Gastropods, a class containing a far greater number of genera than either of the others named. Included in these are the Muricea, Tritons, Purpura, Volutes, Fusus, Mitra, Marginella, Olives, Cones and Cypraea.

In all of these are rare and costly specimens, while some of them show an almost complete series of the species.

This is especially so as regards the Cones, Olives and Cypraea, the last being the largest and finest collection of its kind in the United States save that belonging to John H. Campbell Esq. of Philadelphia, which is indeed worth a long journey to see. Exquisite specimens are also plentiful in the other genera mentioned. Passing from these the visitor will meet with many series of genera belonging to the same class. Though less prominent, perhaps, than those left behind, they are in some respects quite as interesting.

Among them is the genus Cerithium, a group of wax-like shells, whose "quaint and curious" forms make them delightfully attractive. Here too are the Littorina, the Turbo, Trochus, Phasianella and many others including the genus Haliotis which in beauty, number of species and size of specimens, can fairly claim the attention of all lovers of Nature's handiwork.

Near to these are the Patella, Bulla and Chitons, all of which are worthy of attention, though among the last of the Marine Univalves.

Here also, near the center of the west gallery, are located the cases intended for a special collection of all molluscous species belonging to the United States.

The idea of this collection emanated from the President of the American Association of Conchologists and there is every reason to believe that the members will agree with him and show their appreciation of the project in offerings of the best specimens obtainable near their respective homes. Just beyond these, in cases and drawers, can be seen a majority of all the fresh water species of the world, including the types of Rafinesque, Say, Conrad, Tryon, Haldeman Gabb and others, and a series of duplicate types of Lea's Unionidae.

The series of Land Shells commences with *Oleacina*, a genus chiefly confined to the U. S. Gulf States and Central and South America. A majority of the species are shown, and as many of the shells are translucent, the visitor, for this and other reasons, will find them both interesting and instructive.

The same translucent, and in some instances transparent, character is also finely illustrated among species of *Vitrina* in a case near by. Just beyond the latter are several families containing a comparatively large number of genera. Of these the most familiar are *Gibbus*, *Zonites* and *Nanina*, the arrangement of which is entirely completed, a task that only expert conchologists can fully appreciate. In *Zonites* and *Nanina* many beautiful gems are presented, though none so singular in form, perhaps, as are the species *Lyonettianus* and *pagodus* in the genus *Gibbus*.

Next come the typical Helices, a genus containing some 3,400 species. An enormous number indeed to be of one kin. Among those exhibited are many specimens remarkable for size, perfection of finish, and the rare combination of colors adorning their surfaces. With these can be seen *H. pieta*, from Cuba, with its forty color varieties, each "a thing of beauty and a joy forever;" *H. Gibboni* with its white and chestnut-colored crescents; and *H. Polygyrata* whose many whorls are alike suggestive of giddiness and French horns. Also scores of others no less enchanting though hailing, with their less favored brothers, from all continents and islands of the world. In the same family is that wonderful group known as the *Cochlostyla*. This comprises many sub-genera, including the typical *Cochlostylus* of Ferrussac. The group, however, as it is understood, embraces nearly all of the Helicoid and Bulimiform land species belonging to the Philippine and adjacent islands.

Nothing but superlatives of the highest order can do justice to the superb appearance of this group. Where each species exhibits a style of beauty peculiar to itself, and all are charming, any special reference to individual perfection would seem invidious.

Some, it is true, show a higher caste of beauty than do others, but none the less are they all graceful and fair to look upon. With slight modifications these remarks will also apply to the genus *Bulimus* in an adjoining case. This group is not so patrician in general appearance, but a large percentage of the species are sufficiently handsome to create a desire for possession in the heart of the collector.

Nor would this desire be lessened on his beholding, a few feet away, the grand display made by the genus *Achatina*, many species of which are quite large, symmetrical in form and radiant with color.

Following these, with an almost complete complement of species, are still many families belonging to the *Pulmonata*.

Among this number, the best known are the *Achatinellidae*, the *Cylindrellidae*, *Pupidae*, *Succineidae* and *Auriculidae*.

All are rich in species especially interesting to the student, and possibly so to the casual observer; but lack of space prevents any further allusion to them at present. For the same reason but little reference can be made to the multitude of bivalves still unnoticed. These belong to the Class *Pelecypoda*, and are chiefly marine. Among the most beautiful of the genera are the *Tellina*, *Cytherea*, *Tapes*, *Cardium*, *Trigonia*, *Spondylus* and *Pecten*. These are the queens of the Class, though many other genera are endowed with species but little inferior either in form or color.

Few, however, can rival the regal beauty of *Tellina radiata*, *Cytherea crycina*, *Tapes literata*, *Cardium pseudolima*, *Trigonia margaritifera*, *Spondylus princeps*, *Pecten pallium* and other species gracing their respective genera. All gems, rare gems from ocean sands and caves

“Where the foot treadeth not, nor the eye may scan;

Deep, deep from the haunts and the homes of man.”

Philadelphia, October, 1890.

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#### NOTES ON *BULIMULUS DORMANI* W. G. B.

BY CHARLES T. SIMPSON, WASHINGTON, D. C.

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In the Oct. NAUTILUS Mr. Berlin H. Wright separates a form of *Bulimulus Dormani* from the type, calling it var. *albida*, and